

STANDARDS DEVELOPMENT BRANCH OMOE



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THE

ONTARIO WATER RESOURCES
COMMISSION

WATER POLLUTION SURVEY

of the

POLICE VILLAGE OF STONEY POINT

COUNTY OF ESSEX

1967

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Report on a water pollution
survey of the police village of
Stoney Point in the township of
Tilbury North in the county of

80581

THE
ONTARIO WATER RESOURCES COMMISSION
REPORT ON A
WATER POLLUTION SURVEY
OF THE
POLICE VILLAGE OF STONEY POINT
IN THE
TOWNSHIP OF TILBURY NORTH
IN THE
COUNTY OF ESSEX
MAY 31, 1967
DISTRICT ENGINEERS BRANCH
DIVISION OF SANITARY ENGINEERING.

ONTARIO WATER RESOURCES COMMISSION

R E P O R T

INTRODUCTION

A water pollution survey was conducted in the Police Village of Stoney Point on May 31, 1967. The purpose of the survey was to record all significant sources of water pollution within the Police Village. The surveys are performed routinely as a basis for evaluating all existing and potential sources of pollution. Where such polluting materials are found, corrective action is necessary.

Mr. D. Caza, Clerk, Township of Tilbury North, provided information pertinent to the survey. Mr. A.J. Mailboux, Superintendent of Works, assisted in the investigation and sampling programme.

PREVIOUS SURVEY AND RECOMMENDATION

A water pollution survey was carried out by the OWRC in May of 1961 in the Police Village of Stoney Point. The report revealed a prevalence of sewage problems in the Police Village. Numerous municipal storm sewers were conveying inadequately treated sewage flows with adverse effects resulting. It was recommended that the practice of discharging inadequately treated sewage flows from private drains to the watercourses within the Police Village be discontinued. To date no action has been taken.

GENERAL

The Police Village of Stoney Point with an assessed population of 406 (1967 Municipal Directory) is located on the south shore of Lake St. Clair, in the northeast section of the County of Essex.

General drainage from the area flows into Lake St.Clair. Local drainage is provided by municipal drains, storm sewers, and private drains, all of which flow in a northerly direction and discharge into Lake St.Clair.

Septic tank systems are utilized on most properties for the treatment of domestic sanitary sewage. A few privies are also in operation. Heavy clay soil conditions, combined with a high water table, tend to result in unsatisfactory operation of field-tile disposal beds in many instances. The lack of space for the installation of adequate field-tile beds is evident on many residential and commercial properties. These conditions have resulted in the discharging of inadequately treated septic tank effluents into surface water drains.

The water pollution survey, as conducted, consisted of the locating of municipal and private surface water drains and storm sewers, and an investigation including the sampling of each to determine the level of pollution being discharged into Lake St.Clair from the Police Village area.

The sanitary chemical analyses and the bacteriological examination results of samples collected from the municipal and private drains are tabulated in table I. The location of sampling points are designated on the accompanying map.

INTERPRETATION OF LABORATORY ANALYSES

For convenience in the interpretation of laboratory

analyses and bacteriological examinations, the Ontario Water Resources Commission objectives for water quality are as follows:

1. SURFACE WATER DRAINS AND STORM SEWERS

5-Day BOD (Biochemical Oxygen Demand)
- not greater than 15 ppm (parts per million)

Suspended Solids
- not greater than 15 ppm (parts per million)

Coliform Organisms (Membrane Filter Method)
- not greater than 2400 per 100 millilitres (ml)

Anionic Detergent
- the presence of anionic detergent in waters generally indicates pollution from domestic sources.

2. WATERCOURSES

5-Day BOD (Biochemical Oxygen Demand)
- not greater than 4 parts per million (ppm)

Coliform Organisms (Membrane Filter Method)
- not greater than 2400 per 100 Millilitres (ml)

SIGNIFICANCE OF LABORATORY ANALYSES

By comparing the laboratory analyses of samples collected from the municipal surface water drains (Table I) with the objective figures for water quality, it's readily noted that the water in all drains examined, with the exception of one (sample 9) are grossly polluted. The coliform counts and the anionic detergent concentration indicate that domestic wastes and sanitary sewage are the probable sources of the polluting materials.

This condition may be attributed directly to the practice of permitting the discharge of untreated or inadequately treated

wastes into the municipal surface water drains. These drains in turn discharge into Lake St.Clair and contribute to pollution in the Lake.

It was noted during the survey that private drains extend from properties along the six-seven sideroad. An examination of water samples collected from one of the outfalls (Sample 4), indicated a high level of contamination present. The laboratory analyses indicated that sanitary sewage was the probable source of the pollution.

It is therefore concluded that untreated and inadequately treated domestic wastes are being discharged into surface water drains.

CONCLUSIONS

Sanitary sewage and domestic waste produced in the Police Village of Stoney Point are being discharged without adequate treatment to Lake St.Clair. This practice constitutes a violation of Section 27, Subsection 1, of the Ontario Water Resources Commission Act which states:

"Every municipality or person that discharges or deposits or causes or permits the discharge or deposit of any material of any kind into or in any well, lake, river, pond, spring, stream, reservoir or other water or watercourse or on any shore or bank thereof or into or in any place that may impair the quality of the water of any well, lake, river, pond, spring, stream, reservoir, or other water or

watercourse is guilty of an offence and on summary conviction is liable to a fine of not more than \$1,000.00 or to imprisonment for a term of not more than one year, or to both".

SUMMARY

A water pollution survey was conducted in the Police Village of Stoney Point on May 31, 1967.

A high level of pollution in almost all municipal surface water drains examined was noted (Table I).

The extremely high coliform organism content and the high concentration of anionic detergent indicate that inadequately treated sanitary sewage and other domestic wastes to be the major sources of the pollution.

RECOMMENDATIONS

In consideration of the observations and findings of this water pollution survey, the following recommendations are presented.

1. A pollution abatement programme should be instituted for the Police Village of Stoney Point. Such a programme should include the installation of a system of sanitary waste collection sewers and an adequate method of waste treatment.

2. In the event that the institution of sewerage works is not feasible, it will then be required that the municipality takes immediate measures to ensure that all private drains which

discharge inadequately treated wastes to any surface water drain, or watercourse, are located and severed. This action will then require each property owner to provide an approved system for the adequate treatment of his own wastes.

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Approved by



J. M. Timko, P. Eng.,
District Engineer,
Division of Sanitary Engineering.

Prepared by:
W.L. Talbot,
Civil Technologist.

TABLE IPOLICE VILLAGE OF STONEY POINT - WATER POLLUTION SURVEYSURFACE WATER DRAINS AND STORM SEWERSOUTFALLS TO 6-7 DRAIN

Location of Sampling Points	Description of Sampling Points	5-Day BOD (ppm)	S O L I D S			Anionic Detergent as ABS (ppm)	Coliforms per 100 ml Membrane Filter
			Total (ppm)	Susp. (ppm)	Diss. (ppm)		
1	1st. Conc. Sewer West of 6-7 Side Road	46	516	15	501	12	17,000,000
2	1st. Conc. Sewer East of 6-7 Side Road	178	722	214	508	9	380,000,000
3	Outfall - Approx. 75' South of 1st. Conc. Road	152	730	63	667	102	12,000,000
4	Private Drain outfall to 6-7 Side Road Drain East Side	39	592	180	412	12	10,000,000
5	Village Drain outfall to 6-7 Side Road Drain	218	454	94	360	43	40,000,000
8	6-7 Open Drain downstream from Village	14	780	202	578	2.5	2,400
9	6-7 Open Drain upstream from Village	7	570	11	559	0.2	100

TABLE I CON'T.

Location of Sampling Points	Description of Sampling Points	5-Day BOD (ppm)	S O L I D S			Anionic Detergent as ABS (ppm)	Coliforms per 100 ml Membrane Filter
			Total (ppm)	Susp. (ppm)	Diss. (ppm)		
6	Storm Sewer Hale Avenue outfall to Lake St.Clair	138	2546	2258	288	18	6,000,000
7	Storm Sewer Maple Avenue outfall to Lake St.Clair	95	832	396	436	13	14,100,000